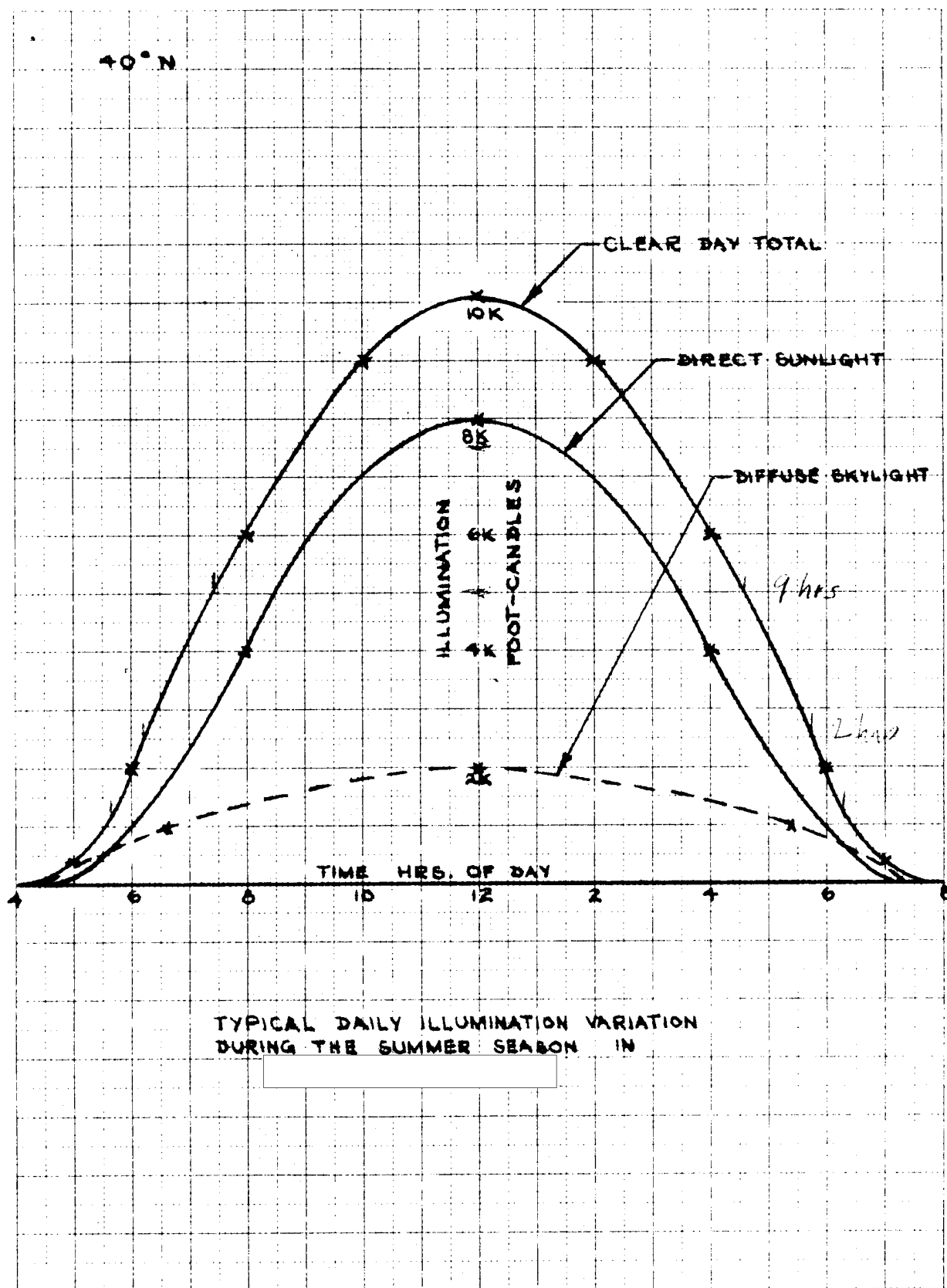


GENERAL EVALUATION OF EXPOSURE CONTROL SYSTEMS

	<u>IRIS CONTROL</u>		<u>TIME CONTROL</u>		<u>COMBINED CONTROL</u>	
	<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>
	HIGH STATIC RESOLUTION GREATER DEPTH OF FIELD	GREATER POWER CONSUMPTION LOW SYSTEM RELIABILITY HIGH MECHANICAL COMPLEXITY LESS DYNAMIC RANGE LOW DYNAMIC RESOLUTION	HIGH SYSTEM RELIABILITY HIGH SYSTEM RESOLUTION HIGH DYNAMIC RANGE QUICK DELIVERY	LESS DEPTH OF FIELD LESS STATIC RESOLUTION	MAX. DYNAMIC RANGE CAPABILITY MAX. OPERATING TIME MAX. CONTRAST MAX. RESOLUTION	HIGH COMPLEXITY LESS EQUIPMENT RELIABILITY HIGHER COST LONGER DESIGN & PRODUCTION TIME
<u>CONTINUOUS</u>	MAX. CONTRAST MAX. RESOLUTION SIMPLICITY RELIABILITY	MORE POWER REQUIREMENT MORE COMPLEXITY LESS INFORMATION CONTENT	✓ SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>STEP</u>						
OPEN LOOP	SIMPLICITY	INACURACY LESS RELIABLE				
CLOSE LOOP	MORE RELIABILITY	MORE COMPLEXITY	✓ SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
SINGLE LENS	SIMPLICITY RELIABILITY LOW COST MORE COMPACT	WORK WITH SMALL SPACE	✓ SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
DUAL LENS	MORE WORKING SPACE BETTER APPROXIMATION	LESS RELIABLE MORE MECHANICAL COMPLEXITY				



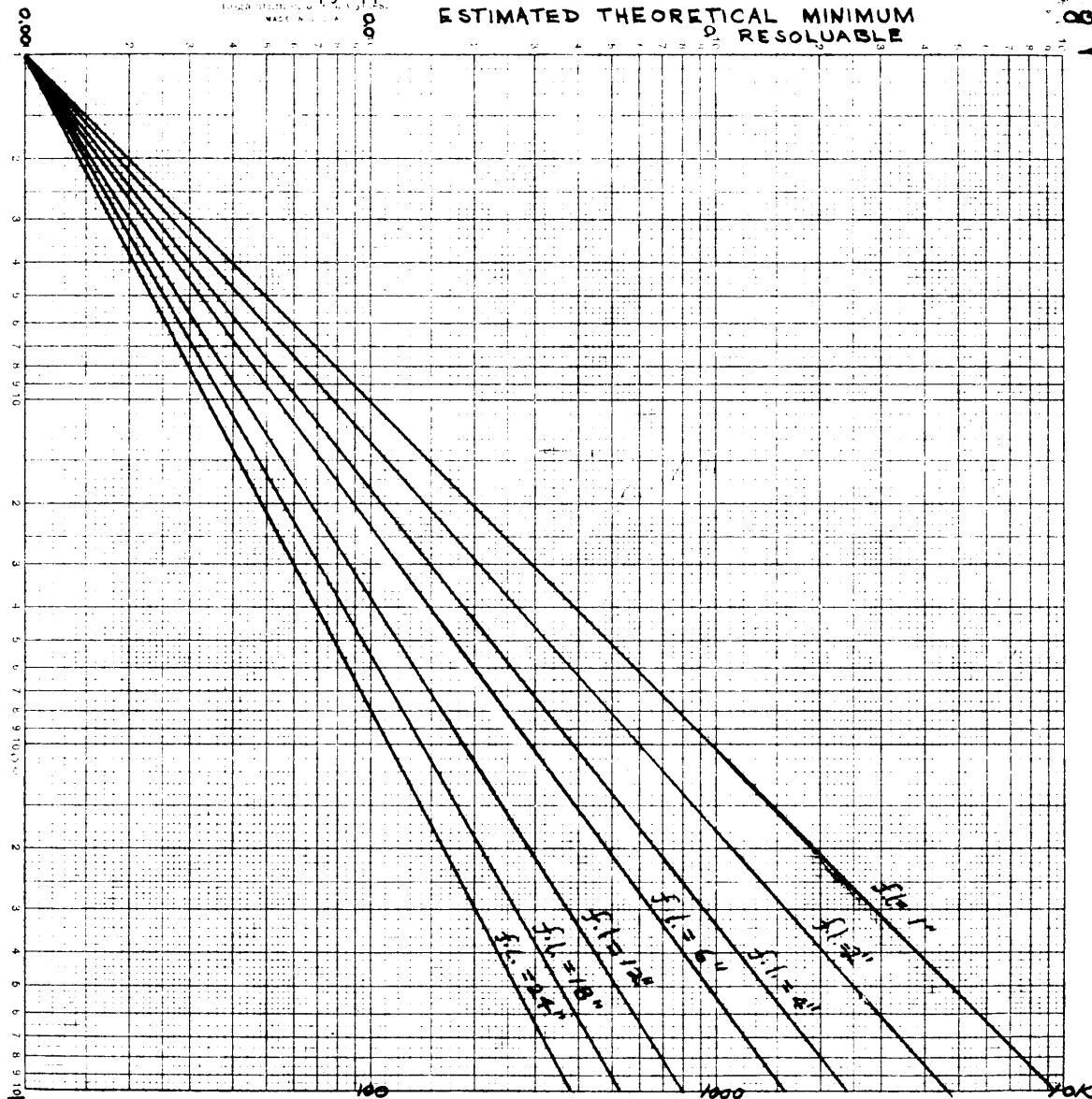
STAT

ESTIMATED THEORETICAL MINIMUM
RESOLVABLE

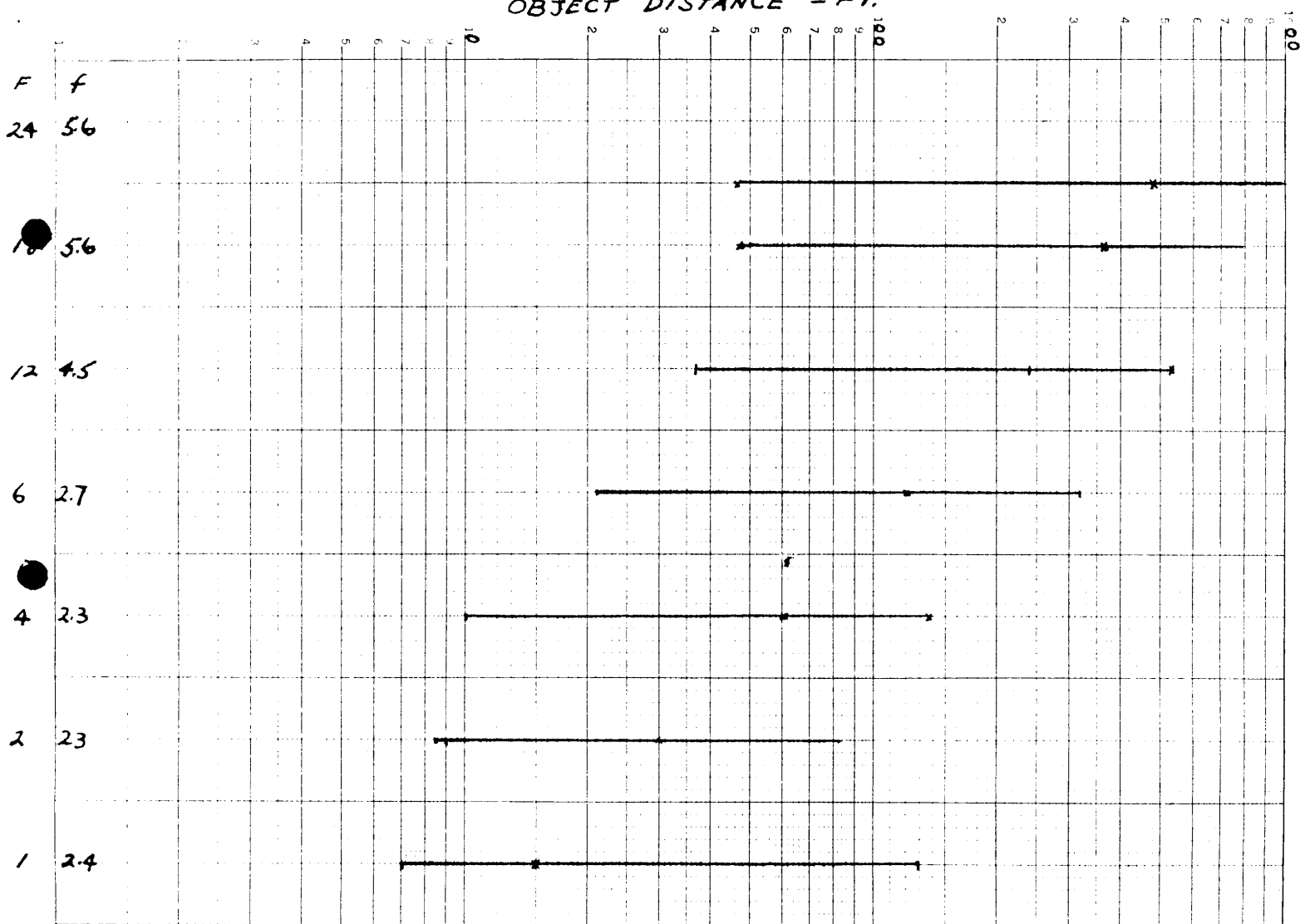
OBJECT - FEET
← 40 LINES/MM
(APPROX.)

OBJECT DISTANCE - S (FEET)

LENS SELECTIONS

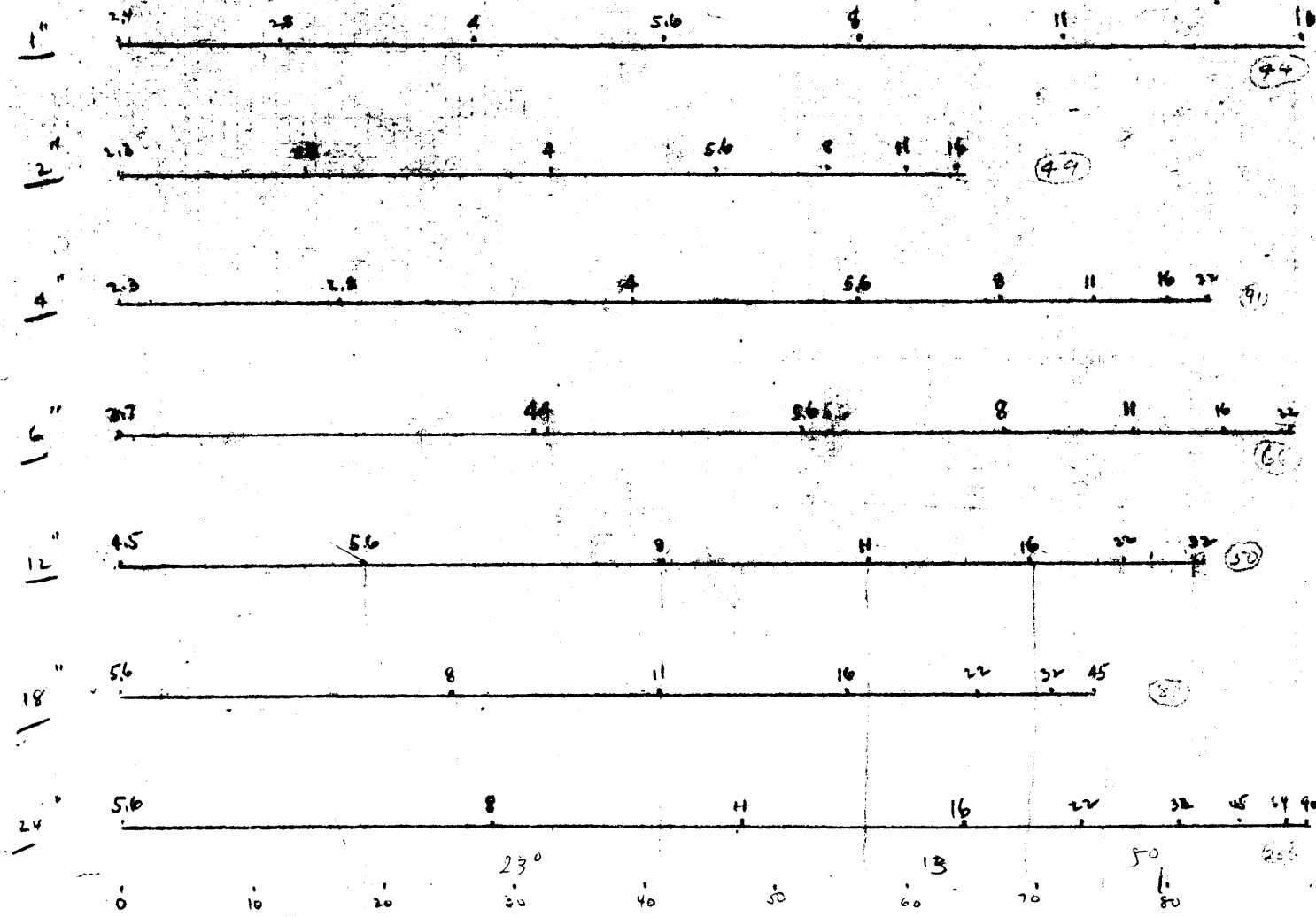


OBJECT DISTANCE - FT.



BY _____ DATE _____
 CHKD. BY _____ DATE _____
 SUBJECT _____
 SHEET NO. _____ OF _____
 JOB NO. _____

F.L.



CHKD. BY DATE

JOB NO.

Depth of Field Calculation for CD-182 Lens

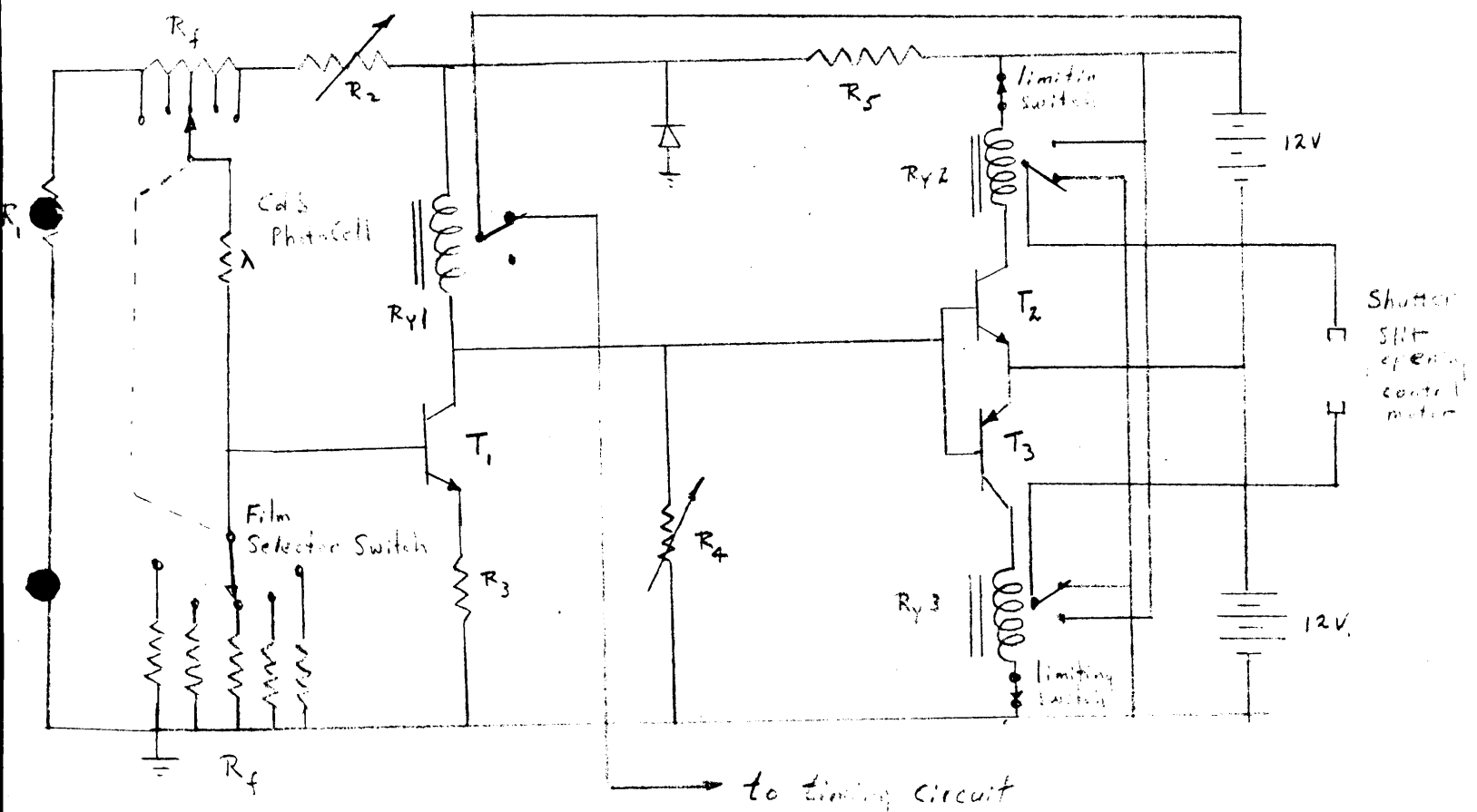
$$D = \text{Depth of field} = D_N + D_F$$

$$D_N = \frac{HS}{H+S} \quad D_F = \frac{HS}{H-S}$$

$$H = \text{hyperfocal distance} = \frac{F^2}{f C_c} \times 0.083$$

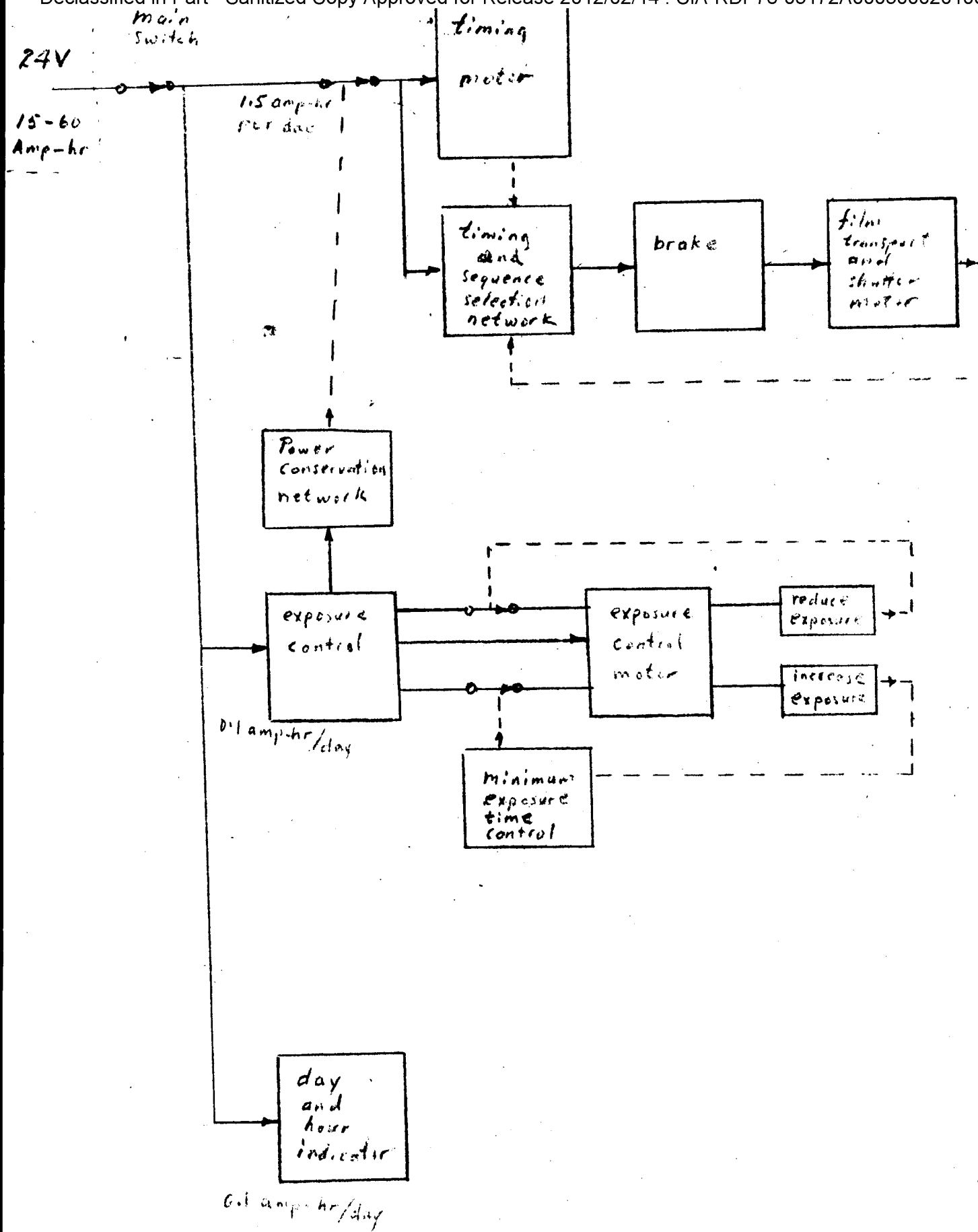
$$\text{for } C_c = 0.002 \quad = 41.5 F^2 / f$$

F	f	S	H	HS	H-S	S+H	D _F	D _N	D
1"	2.4	15	17.3	260	2.3	32.3	113	8	121
2"	2.3	30	72	2160	42	102	51.5	21.6	73
4"	2.3	60	239	17,400	229	349	76	50	126
6"	2.7	120	554	6.65x10 ⁵	434	674	199	99	298
12"	4.5	240	1330	3.19x10 ⁵	1190	1570	293	203	496
18"	5.6	360	2400	8.65x10 ⁵	2040	2760	424	313	737
24"	5.6	480	4270	2.06x10 ⁶	3790	4750	542	432	977



STAT

Automatic Exposure Control Circuit Diagram



CD-182 System Block Diagram

10-23-57